

Appln. No.: 10/502,241
Amdt. Dated: October 3, 2007
Reply to Office Action of July 9, 2007

REMARKS

Entry of the foregoing amendment and reconsideration of this application is requested. Claims 16 and 23-25 have been amended, claim 17 has been cancelled and claims 16 and 23-25 are now pending in the application.

The rejection of claims 17 and 23-25 under 35 USC §112, second paragraph, has been rectified by canceling claim 17 and making claims 23-25 dependent on amended claim 16.

The Abstract is now included on a separate, last page of the specification.

The Examiner has rejected claims 16, 17 and 23-25 under 35 USC §103(a) as being unpatentable over various combinations of Yam (US Patent No. 5,827,114), Straub (US Patent No. 3,090,166), and King (US Patent No. 3,864,471).

The Examiner contends it would be obvious to one of ordinary skill in the art to modify Yam to include the steps of using an angle of incidence and rolling particles as shown by Straub in order to better polish any size and shape work. The Examiner further maintains that it would be obvious to one of ordinary skill in the art to modify the combination of Yam and Straub to include an abrasive material as taught by King in order to better polish the surface.

These rejections are respectfully traversed and reconsideration is requested in view of the following comments.

Independent claim 16 has been amended to rectify a typographical error, and now properly recites the average maximum diameter of the particles as 30-1000 microns as originally claimed. Claim 16 has been further amended to incorporate the subject matter of claim 17.

Regarding the cited references, Yam describes a slurry blasting process in which a substrate is treated with a slurry comprising soft abrasive particles entrained within a liquid carrier stream. Water soluble abrasive particles are preferred (col. 5, lines 34 and 35, and lines 41-43, col. 6, lines 22-23). The preferred abrasive media are alkali metal

bicarbonates (col. 6, lines 2-19). In fact, all of the examples employ ARMEX particles as an abrasive media. In this regard, we enclose herewith a page from the ARMEX website (www.armex.com) which describes the characteristics of the ARMEX particles. As the Examiner can see, the particles are soluble, crystalline, sodium bicarbonate particles which are described as being particularly “sharp” and “ friable”, quite unlike the insoluble precipitated or agglomerated particles that are employed in the process of the present invention. Further, the process of Yam employs a feedback mechanism whereby abrasive media used to treat a substrate is collected and re-used (see Fig. 1 and associated description). In this regard, the process of Yam encourages crystal growth in the tank 32 prior to re-use of the crystals in the blast slurry.

Straub teaches a polishing or buffing method or device in which pellets (which may be round) are projected at the surface and rebound off the surface (see col. 2, lines 44-47) in the presence of a polishing or buffing agent (col. 2, lines 36-38). This action is described as having a “wiping” or skidding” action on the surface (col. 2, lines 48-50). Importantly, the particles are described as being formed of a resilient material (col. 2, line 34), and this is exemplified in the recitation of various rubber and polymeric pellet (col. 2, last paragraph). Thus, Straub teaches the use of projected elastomeric particles as a means of causing engagement between a polishing or buffing agent and a surface to be treated, with the polishing or buffing agent either being pre-applied to the surface, or being pre-applied to the pellets. Thus, it is not the pellets which perform the polishing or buffing action, rather it is the combination of the pellets and polishing or buffing agents on the surface.

Finally, King teaches a stable dentrifice which employs an alkali earth metal carbonate as part of a polishing component. Chalk, having a particle size of between 1 and 10 microns, is specifically mentioned as being the typical alkali metal carbonate (col. 2, lines 22-25).

The method of amended claim 16 employs precipitated or agglomerated insoluble alkali metal carbonate particles to remove a coating from a surface in a process in which the particles are propelled against the surface such that they roll along the surface, removing a coating from the surface in an erasing action. In this erasing action, as the particles roll along the surface, the particles pick up dirt, debris, or coating onto their surface and carry it away from the surface. This process is clearly evident from Figure 2 and the associated description. The particles claimed are generally round and have an irregular surface configuration, both of which characteristics assist in the erasing process. Comparing this process with that of Yam, the process of amended claim 16 is distinguished in a number of features: first, Yam does not disclose the use of round particles (as indicated above, the particles taught by Yam are sharp, friable, crystals); secondly, Yam does not suggest the use of precipitated or agglomerated alkali metal carbonates; and thirdly, and most importantly, Yam does not suggest the erasing technique of the present invention. Rather, Yam teaches a reasonably conventionally abrasive blasting process in which crystal abrasives are projected at a surface.

Starting with Yam, in order for the skilled person to arrive at the subject matter of amended claim 16, they would have to have made a number of specific changes to the process described in Yam. First, they would have to swap the angular, friable, crystals taught by Yam for round or spherical particles capable of rolling along a surface. in this regard, it is noted that Straub teaches a polishing or buffing process which employs spherical pellets which rebound from the surface. Thus, while the skilled person could conceivably have been motivated by the teaching of Straub to modify the process of Yam to incorporate resilient pellets to improve the polishing characteristics of the process, the skilled person would surely have been equally aware that such a substitution would have been to the detrimental to the abrasive and cleaning characteristics of the process and, as such, would have been disinclined to make such a change. The second modification of the Yam process needed to arrive at the subject matter of amended claim 16 is the use of an alkali metal carbonate as the erasing agent. It is noted that King teaches the use of a

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calcium carbonate as part of the polishing component of a dentrifice. However, the calcium carbonate employed in King is chalk, having an average particles size of between 1 and 10 microns. This is clearly distinct from the alkali metal carbonate of amended claim 16 on two separate points: first, the alkali metal carbonate of claim 16 is in the form of a precipitate or agglomerate; and secondly, the precipitates or agglomerates have an average particle size of between 30 and 1000 microns.

Thus, even if the skilled person were motivated to make the specific selection of features of Yam, Straub and King as suggested by the Examiner (which is not admitted), they would still not arrive at the subject matter of the present invention. Indeed, in order to arrive at amended claim 16, the skilled person would have to make a specific selection of features from three prior art documents, and then still have to change to two further features of the derived combination. The Applicant, therefore, respectfully submits such a mosaic of documents does not realistically reflect the skills of the person of average skill in the art.

The Applicant respectfully requests the Examiner to take the following final points into account in the assessment of the inventiveness of the present invention.

The present invention is based on a process of treating a surface which relies on a process of erasing a coating from a surface. None of the prior art documents describes such a process. The closest process is that of Straub, which teaches the use of resilient pellets *in combination* with a polishing or buffing agent to polish a surface.

Only one of the prior art documents teaches the use of round particles (Straub), yet the particles described are resilient particles (rubber or elastomers) which do not themselves remove a coating, but do so in combination with a polishing or buffing agent.

Finally, none of the prior art documents describe the use of precipitated or agglomerated alkali metal carbonate particles having an irregular surface configuration.

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For all of the foregoing reasons, claims 16 and 23-25 are believed to be allowable and withdrawal of their rejections is respectfully requested.

Respectfully submitted,

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